

# AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging

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Planet 3

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**We have identified what may be an indication of extraterrestrial intelligence, as well as the planet where it may have originated. This document summarizes the information gathered so far about the candidate message and its candidate planet of origin.**

## Potential evidence for extraterrestrial intelligence

Astronomers have detected a broadband radio transmission that appears to have originated from this planet's solar system. The transmission is believed to contain an image and is displayed below with the most likely aspect ratio. The transmission is continuous and does not repeat itself frequently. An excerpt of the transmission is shown below:

```
1110001110100100001101011110011011101000111111011000100000110110010000001100001
1000100000001011100010111110001001001101010111011001100001011001110110010011100
0111111101100101100101100011011010110001010011111001001000111000011111010011100
00111101110010011010111001111000000101100111110101111000111101101000000111011010
010011011100000000001010101011101101000000011010101010111111000001110001101111
0001111100000110000101111010001000010001010110101101100111111000100111010000010
0000011010001000110101101110111100000101111100010110000001001000011011001100100
0011101110101110111100111010111110000010110100010011000000100010100001101010111
00011001001010110101101001001000001100011010110011001100111011011011000011100010
```

This signal was first noticed at UTC 2077-05-14/11:54.

## Parameters of the candidate planet of origin and its host star

Spectral Type	M
Stellar Luminosity (Solar Units)	0.000706
Stellar Mass (Solar Masses)	0.128
Distance to Star (lightyears)	272.4
Planet Mass (Earth masses)	1.8
Atmospheric Pressure (atm)	1.1

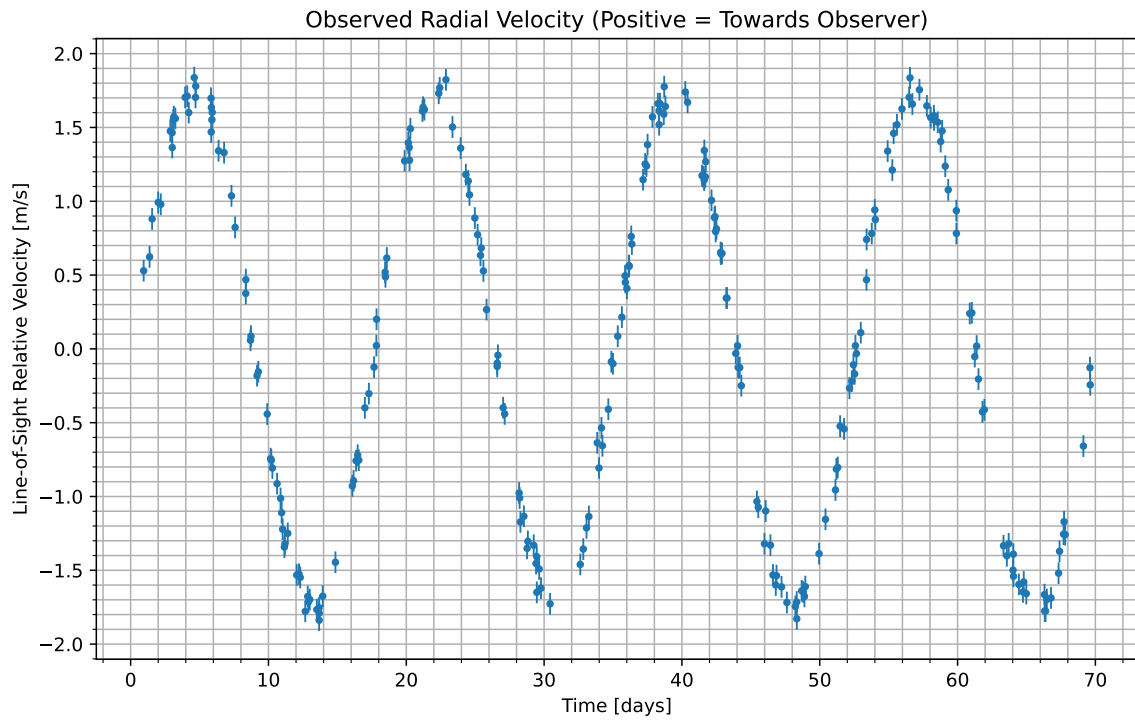


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2077-05-15/05:56. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

**Atmospheric composition of the candidate planet (percent by volume)**

Molecule	Concentration
$N_2$	31
$CO_2$	56.5
$H_2O$	12.5

### Gas Abundance (percent by volume)

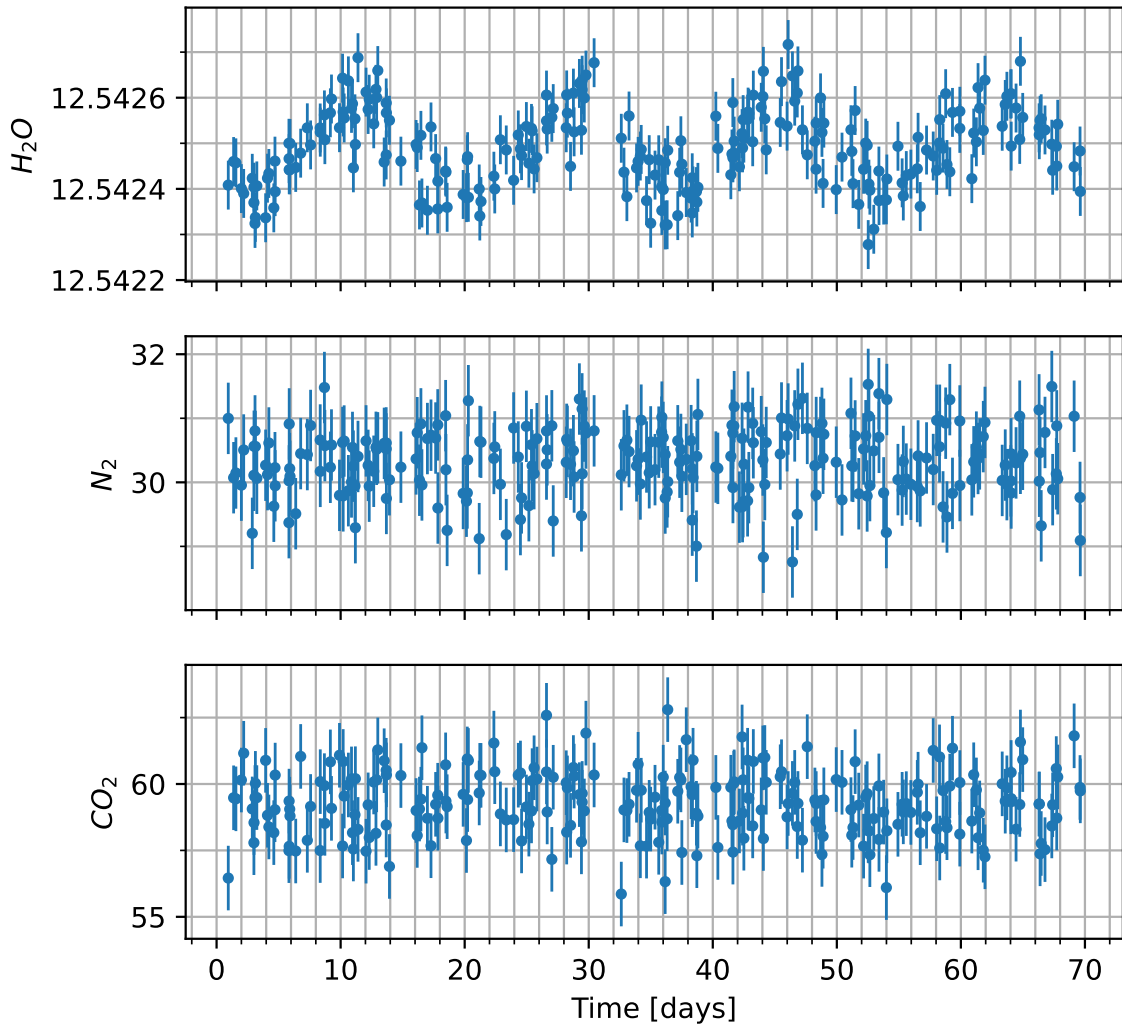


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

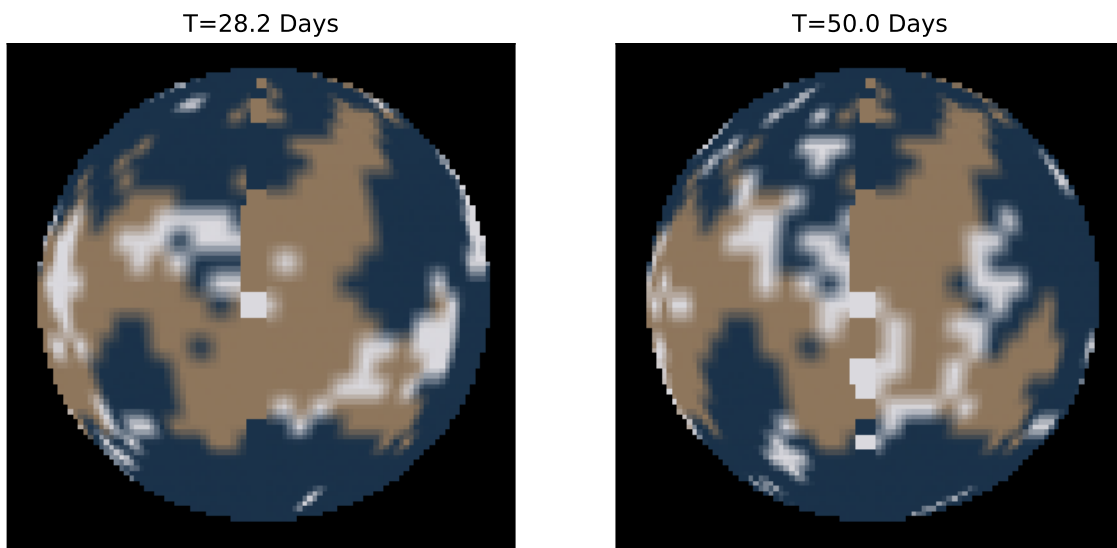


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to be liquid regions of some kind. Other colors present reflect the visible color as best as we are able to measure.